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A BRIEF FOR THE CIGARETTE.

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In offering the facts contained in this paper for the consideration of your learned Society, I venture to be hopeful that, perhaps by reason of the very incompleteness of my efforts, some of your members may be induced to adopt as a subject worthy of systematic scientific investigation, the unreasonable prejudice which at present exists against the cigarette. For I am confident that exhaustive research will serve only to emphasize the results at which I have arrived, by giving to them that definiteness and precision which is attainable only by professional men of science.

I make no plea for the importance of the matter under discussion. The annual output of cigarettes this year will reach 4,000,000,000. And if the cigarette *per se* is the malign thing that its opponents claim it to be, the manufacture and sale of an article so dangerous to the public health should be suppressed without a moment's delay. If, on the contrary, it can be shown by incontestable proof that every argument used by those who clamor for the suppression of the traffic in cigarettes is based upon transparent falsehoods or absurd misconceptions, easily penetrated by the light of science, then surely it is time to put a stop to idle detraction and senseless legislation directed against an evil wholly imaginary.

For the history of the anti-cigarette agitation shows that two State legislatures (Iowa and Tennessee) have actually passed laws prohibiting the sale of this article within their

borders, and recently two cities (Chicago and Denver) have adopted municipal regulations having the same end in view. Nay more, the Congress of the United States was petitioned at one time (1892) to impose a tax upon the article that would serve to discourage the manufacturer to the point of abandonment of his plant. Now let me ask, why this outcry for legislation, National, State and Municipal? The answer is "popular prejudice." Absolutely that and nothing more. But how potent popular prejudice is, the members of this Society are in a position to know, by the experience gained in their efforts to down the "chloroforming" and "poisoning from canned meat" fiction. Science demonstrated the absurdity of both of these current beliefs, and yet if they were things that could be legislated out of existence, there would doubtless be legislators willing to frame laws to regulate them. Picture, if you please, Congress solemnly listening to a petition to place a tax on tomatoes! legislatures and cities prohibiting their sale within their jurisdictions. The case of the tomato is nearly analogous to that of the cigarette. Introduced into Europe in the Sixteenth Century by Spaniards from South America; it was known in Italy as Pomo dei Mori (Moors' Apple). Similarity of sound produced, in French, Pomme d'Amour (Love Apple). This was enough to start the belief that the delicacy was sinisterly dangerous. Not until 1793, when the Marseillais entered Paris, was it known as food in that city, and at the present day there are many districts in Northern France in which the tomato is severely avoided by the peasants. Thirty-seven years after this prejudice was overcome in Paris, the people of this country began to use the tomato as an article of diet. Prior to that time they were raised here only as curiosities and known as "Love-Apples" or "Wolf-Peaches." Three centuries to overcome a

prejudice based on a similarity of the sound of three words!

Let us hope for better results in the case of the cigarette, for it has no phonetic enemy to contend against and we are justly proud of our more enlightened time.

The word Cigarette was first used as an English word in 1842, by L. S. Costello. And here let me define just what a cigarette is. For this purpose I select that brand of which more than 2,000,000,000 are sold out of the total annual consumption of 4,000,000,000, and I use the figures of Prof. H. W. Wiley, Chief Chemist of U. S. Department of Agriculture, Washington, D. C.

A cigarette is made of 1.0926 grams of tobacco enveloped in a wrapper of paper which weighs .038 grams. That is to say one pound of tobacco will furnish the fillers for about 416 cigarettes and one pound of cigarette paper will serve to envelope 12,000 cigarette fillers. This is what the unanimous verdicts of disinterested experts of the highest ability declare a cigarette to be. About one twenty-sixth of an ounce of tobacco enveloped in one paper wrapper about 1x3 inches in sizes, and weighing about one seven-hundredths of an ounce. That is all! Tobacco and Paper!

Now what kind of tobacco? What kind of paper? Science again renders unanimous verdict. I quote as follows: Prof. Willis G. Tucker, of the Albany Medicine College, Analyst of the New York State Board of Health, in his Ninth Annual Report to the Secretary of the State Board of Health says: "Cigarettes are generally made from tobacco of good quality." "Sensational statements that they are prepared from the filthiest tobacco and dirtiest refuse are not worthy of credence and can be easily refuted." "The tobacco used in the manufacture of cigarettes, is much less frequently flavored and otherwise artificially treated than is ordinary chewing or smoking

tobacco and that employed in the manufacture of cigars." "As regards the paper wrapper, there is no reason why an impure or poisonous paper should be employed and many reasons why it should not. I am ignorant of any facts proving such to be the case, at least, so far as the leading brands of American cigarettes are concerned." This report was made "in conformity with instructions" that "a chemical examination of some of the leading brands of cigarettes now upon the market" should be made.

Mr. J. C. Wharton, Chemist, of Nashville, Tenn., says:

"The analyses and observations of the materials composing these American cigarettes lead me to the conclusion and belief that they are made from well selected, clean tobacco leaf and a purified article of harmless paper." City Chemist Cass L. Kennicott and Assistant City Chemist D. B. Bisbee, acting under the authority of the Commissioner of Health of Chicago, in a report made last month and to which wide publicity has been given, say: American cigarettes are made of "bright Virginia," (this is a technical term and means a tobacco grown in Virginia and North Carolina and warehoused for three years before it is used), and "frequent analyses show that this tobacco contains only from 1 to 1½ per cent of nicotine. The mildest Havana contains much more, while the best grades of domestic cigars reach as high as 8½ per cent." "The paper, considered merely as paper, which is wrapped around cigarettes, is about as pure a form of paper as it is possible to get by any means."

The foregoing are the affirmations of those who speak after scientifically testing the subject.

Let us next examine the allegations made by those who have made no investigation and speak "untrammelled by any timid regard" for facts. I select the exact words of the Health ordinance of the City of Chicago, approved

May 1st of the present year, because it summarizes fairly well the list of deleterious matter supposed by the ignorant to be contained in the tobacco of which cigarettes are made. This ordinance prohibits the sale of cigarettes containing "opium, morphine, jimpson weed, belladonna, glycerine, and sugar." Add to this arsenic, phosphorus, chlorine and copper, creosote and saltpetre, supposed to be found in the paper, and you have an idea of the ingredients of which popular prejudice has manufactured a cigarette, which has never had any existence other than this phantom of a superactive imagination.

Now permit me to summon my witnesses again. In this instance I shall merely recite their names, for there is absolute unanimity that, to use the words of Prof. H. W. Wiley, "the samples purchased in the open market were found to be entirely free of any trace of arsenic, or of opium, or of any of its active principles." This expert's statement is supplemented by that of Prof. Willis G. Tucker, who adds that he has failed to find in "any medical journal or textbook" even a statement that these foreign substances are employed. Dr. G. F. Payne, State Chemist of Georgia, in a report to a Committee of the House in that State; Profs. Robert and Alfred M. Peter, of Lexington, Ky.; Mr. J. C. Wharton, of Nashville, Tenn., who made tests for arsenic and opium, and Profs. James Dewar, M. A., F. R. S., Jacksonian Professor, Cambridge University; William Odling, M. A., F. R. S., Professor of Chemistry, University of Oxford; C. Meymott Tidy, M. A., M. B., Professor of Chemistry and of Forensic Medicine at the London Hospital, who made special examinations to detect the presence of saccharine matter, if any were present, and finally City Chemist Cass L. Kennicott and Assistant Chemist D. B. Bisbee, also concur in asserting that no opium or arsenic was found. To this testimony must be added the report to the Mas-

sachusetts State Committee on Public Health, made by Professor James F. Babcock, for five years Professor of Chemistry in the Massachusetts College of Pharmacy, Professor of Chemistry in Boston University for the same length of time, State Assayer of Massachusetts for ten years and for seven years State Assayer of Liquors. He says:

"The Fillings. Careful and thorough examination, both chemical and microscopic, showed that the specimens contained no opium, morphine, strychnine or other drug or poison foreign to tobacco. In short, the fillings in every one of the specimens (purchased by the analyst in the open market), were found to consist of tobacco and nothing else."

"The Wrappers. Analyses of the paper wrappers demonstrated the absence of any trace of arsenic, white lead or other poison. The papers were all of excellent quality (rice); in one specimen said to be made from corn husks. These papers contained such elements as are always to be found in the plants producing the fibre from which they are made, and contained no others."

Is not this conclusive? Not a doubt, not even a qualified statement by any of these disinterested experts. If this does not demolish the "opium-arsenic" fallacy, then the science of chemistry is absolutely valueless as a means of arriving at truth.

Affirmatively my witnesses attest the purity of the article, and negatively they deny any impurity. This is as complete and forcible a form of allegation as it is possible for human intelligence to make.

I shall therefore assume that I have proved my case and conclude my remarks by tracing, as far as I am able, the source of this venerable but robust falsehood. I call it "robust," for it has, as I have stated, been used as a lever to influence legislation, and it has found an echo even in the formal decisions of the courts of our country. Judge Horace H. Lurton, of the United States Circuit Court of Tennessee, in declaring the Rogers' Anti-cigarette bill of that state unconstitutional, in an opinion delivered Sept. 30th, last, says in concluding his opinion, "I reach this conclu-

sion (that the law is unconstitutional) though reluctant to strike down a statute aimed at the *suppression* of an *evil* of *most pronounced character*." In reference books too, for popular use, the trail of this lie appears. For example, in "The Reference Hand-book of Medical Sciences" (Albert H. Buck 1889 s. v. Tobacco) these statements appear: "Cigarettes are, on the whole, the most injurious form of tobacco," but this is qualified by the following sentence, which negatives the first assertion and makes nonsense of it. "Not, however, because they are at all harmful if smoked in moderation, but because they are particularly affected by the youth of this country." In condensed form this means that the writer condemns nicotine gluttons and disapproves of the use of tobacco by those of immature years. So does every man and woman of sense. And as far as those of immature years go, Mr. Buck might have added tea, coffee, highly spiced food and candy to this list. "The smoke of inferior grades of paper is somewhat irritant to the respiratory mucous membranes," but it is not otherwise especially poisonous. What has this to do with the subject? Expert results already quoted declare that the paper used in the manufacture of American Cigarettes is not only not "poisonous" at all but of the purest grade which it is possible to make.

Permit me now to briefly recite the history of the cigarette.

Three years after the introduction of the word into the language in "Smoking and Smokers, an Antiquarian, Historical, Veritable and Narcotical Disquisition, written, illustrated and engraved," by Joseph Baker (London 1845) the writer says: "The cigarette has but little strength, it can do you no harm. When the delicate membranes of the mouth are somewhat accustomed to the warmth and the fibres of the brain begin to be less disturbed by the smoke,

pass on to the cigar? No; for the the distance is too great.

* * * No; take one of these little pipes, etc."

This opinion as to the innocuousness of the cigarette was undisturbed as late as 1877 when a writer on the *Galaxy* commends the cigarette smoker for selecting that form of using tobacco which is likely to enable him to be sure that he is smoking the best tobacco. "The cigarette smoker," this article declares, "is totally unaffected in his choice by the sight which in the case of the cigar enables a clever workmen to so roll bad tobacco that we are predisposed in favor of an inferior article."

The first voice heard in dissent from this self-evident truth is found in an editorial in the *London Lancet*, Sept. 12, 1882.

This article was not called forth by anything in particular. It deprecated in a general way the use of cigarettes by growing boys and the Englishman's habit of chewing the ends instead of touching it lightly to the lips, as "foreigners do." It further stated that some young men smoked as many as from 8 to 12 cigarettes for four or five hours every day and this the writer justly deemed an abuse.

What would this writer say to the stock phrase now current which is that the "fiend" smokes "10 or 20 boxes a day." This means anywhere from one cigarette every six minutes for ten hours each day to one cigarette every 8¼ minutes for 24 consecutive hours every day.

Think how preposterous that statement is, and yet I warrant that almost every one present has heard the glib "He's a fiend," smokes "10 or 20 boxes every day."

That, however, was the extent of the *Lancet's* transgression. The arsenic, opium, phosphorus, etc., fictions were reserved for a subsequent date and another pen.

A year later this editorial received attention which came

in the form of a communication from Sir Henry Thompson, who suggested as a means of preventing the chewing of the ends, the interposition of wool in a mouth-tube to prevent the oil of tobacco from coming into contact with the mouth.

In this communication also the first objection to the method of smoking by inhalation was made. "Smoked simply," Sir Henry says, "with cotton wool interposed, and I do not hesitate to regard the cigarette as the least potent and, therefore, the least injurious form of smoking." The inhalation question was disposed of in the same journal of the same year by Meyer Dutch, who wrote, "the inhaled smoke rarely passes beyond the bronchi" and adds, "If any smoke enter the air vesicles, as is generally supposed, it must be a very small quantity indeed, for as a rule it is nearly immediately expelled, and there is no time for diffusion."

The year 1888 saw the birth of the idea that cigarettes contained ingredients other than pure tobacco and paper. In a communication to a London morning paper a writer who signed himself "Medicus," promulgated the lie anent "opium and arsenic." "Cigarettes," said Medicus, "contain a large proportion of opium and an unclassified alkaloid." "The paper contains arsenic, copper or chlorine."

There is the genesis of the falsehood that has since passed lightly from lip to lip and from numberless pen-points to countless reams of good white paper, and has finally invaded Congress, tinged the decision of a United States Judge with prejudice, and influenced state and municipal action. A lie made of the whole cloth, as the *Lancet* speedily demonstrated. For this able Journal immediately appointed a commission of experts, and their report, published October 20, 1888, announced "no trace of opium," or any "unclassified alkaloid" in the tobacco, "not a

trace of chlorine or arsenic" in the paper, but a "faint trace of copper," due, as the commission surmised, to the metallic label on the paper wrapper. "The only possible objection," says the report, "was the trace of copper." The samples examined at this time were not American but Egyptian cigarettes, made of Turkish tobacco, and these usually have a gilt label printed on the wrappers. American cigarettes do not.

But the opium theory was too fascinating to be resisted even by a periodical of as high a grade of intelligence as the Saturday Review. Mr. Goschen, as Chancellor of the Exchequer, had stated that perhaps the "circulation of the cigarette after dinner" might account for the falling off of consumption of "heavy wines," which he noted in his official capacity. On May 4, 1889, seven months after the Lancet's experts' report was published, the Saturday Review pooh-poohs Mr. Goschen's theory, and alludes to cigarette users as "poor creatures" whose tastes are vitiated by "hemped" or "opiated" tobacco.

"Mischief, thou art afoot!" The glittering lie now crossed the water and fastened itself with facile adaptability on the American article.

As far as I have been able to inform myself, the year in which the first publication of these misstatements occurred was 1891, and the first medium was a report sent abroad from Milwaukee by a news-gathering agency, known as Dalziell's. This concern, now defunct, was notorious during the whole of its brief career, for the "fakes" which it originated.

The cigarette telegram referred to, stated that two boys had died in Milwaukee of excessive cigarette smoking and that an examination of the contents of their stomachs after death, revealed the presence of phosphorus. Death was caused, the despatch averred, by this substance combined

with nicotine and an "arsenical solution used in the paper wrappers."

The Lancet commented on this editorially, and rendered a verdict of "not proven" by the facts as stated.

Phosphorus, if used in the paper, said the Lancet, would have betrayed itself by a "twang of the palate," perceptible moisture, and, if the crude article was used, it would "glow in the dark."

Nothing daunted by science, the petitioners to Congress for a high cigarette tax in 1892, alleged impurity in the paper, and placed to the black account of the cigarette the death of "100" boys under 16 in the preceeding year, and the presence of "100" men in the lunatic asylums. Round numbers have a wonderful attraction for the ignorant and they are useful in lieu of accuracy. The anti-cigarette fanatics seem to revel in the absence of anything akin to facts and figures.

The introduction of the statement that insanity results from the use of cigarettes leads me a bit away from my point. For, as I have tried to make clear, I do not claim that tobacco is innocuous. I only claim that science has proved that cigarettes are made of good tobacco. However, I find in the latest issue of the Medico-Legal Journal, Vol. XV, No. 2, page 183, in a paper by Robert Gunn, M. D., on "Insanity and Insanity Laws," a statement that the "rank of the insane and criminal classes are recruited from the boys who have been cigarette smokers," to a surprising extent.

I chance to have at hand a clipping from the New York Sun of September 1, last, containing an interview with Dr. F. W. Robertson, the insanity expert at Bellevue Hospital, New York, in which he says: "Now, while I say that cigarettes are the least injurious of the methods of smoking, I do not mean to say that the use of tobacco is not harm-

ful. It often is. Some persons are so constituted that a very slight use of it will upset them physically. Excessive use is bad for anyone. I do claim, however, that there never was a case of insanity which can be traced directly or indirectly to the use of tobacco in any form."

The issue on the insanity question is thus clearly joined by these gentlemen, but I am no party to it.

I thank you, for this opportunity to place the case of my client—the cigarette—before you, and I trust you will blame the expert witnesses, and not myself, if the conclusions which you must reach from the facts presented are at variance with any of your preconceived ideas.